

Global Forest Products Market and Resource Trends

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Contents

- Forest products markets
 - Production, consumption & trade
 - Global
 - Regional (N. America, Europe, Asia)
 - Market sectors (logs, lumber, panels)
- II. Forest resources
- III. Certification and certified forest products
- IV. Growing the market







Major info sources

- UNECE/FAO TIMBER database on forest products
- FAOSTAT database on forest products
- UNECE/FAO Temperate & Boreal Forest Resources Assessment
- FAO Global Forest Resources Assessment
- UNECE Timber Committee market forecasts
- UNECE/FAO Timber Bulletin "Forest products annual market review, 2003-2004"
- Global Forest Products Model, by Buongiorno, et al.
- UNECE/FAO European Forest Sector Outlook Study
- FAO State of the World's Forests, 2005







I. Forest products markets







Sectoral analysis: Logs

UNECE/FAO definitions:

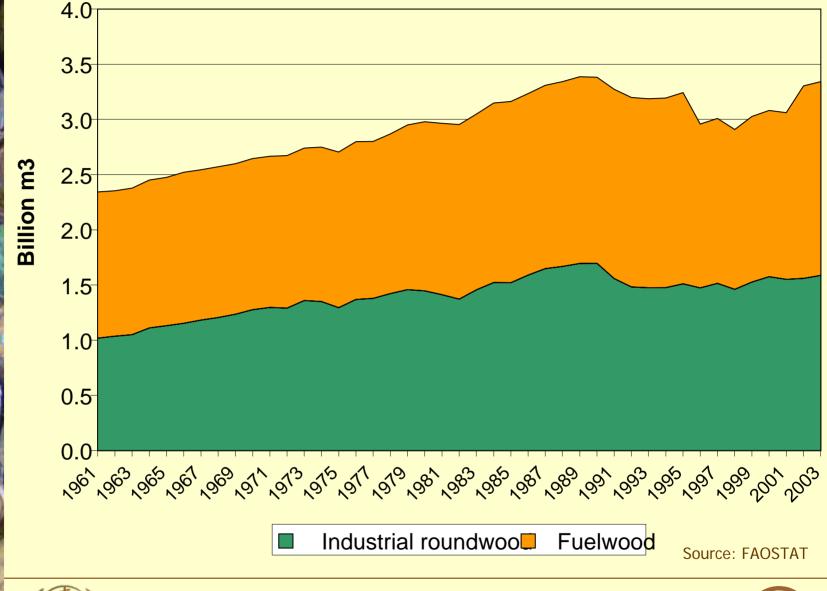
- "Roundwood" is industrial roundwood + fuelwood
- "Industrial roundwood" as sawlogs, veneer logs, pulp logs and other industrial roundwood







World production of roundwood, 1961-2003









World roundwood utilization as fuel



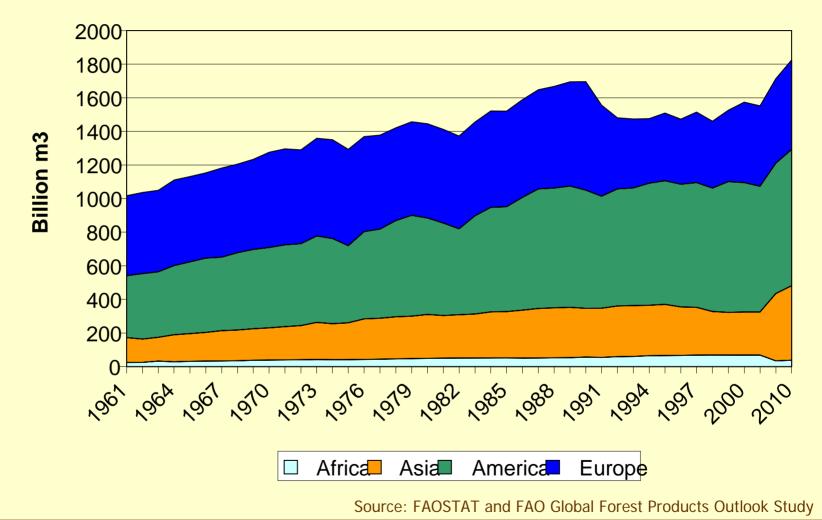
- Over half used as fuel
 - Domestic heating
 - Cooking
- Mostly in developing countries
- Low value
- Modern wood energy
 - Small international trade
 - Growing market
 - Policy push in Europe







Regional production of industrial roundwood, 1961-2010

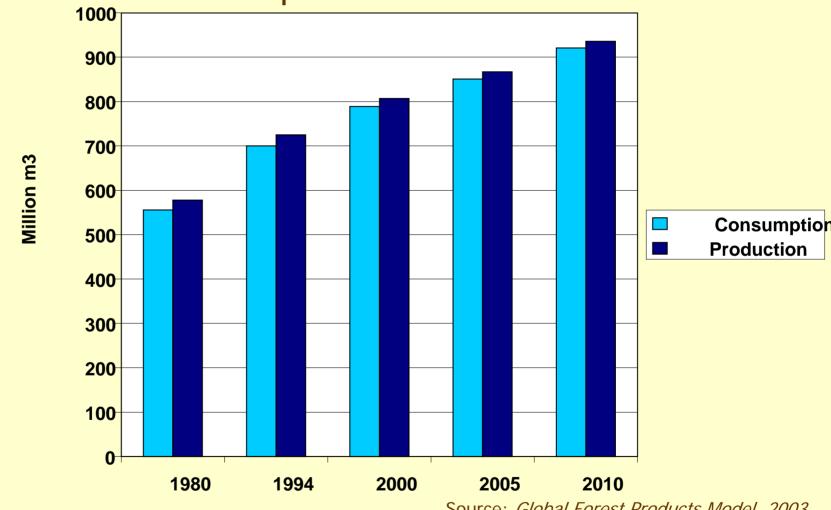


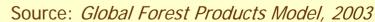






American industrial roundwood consumption and production to 2010



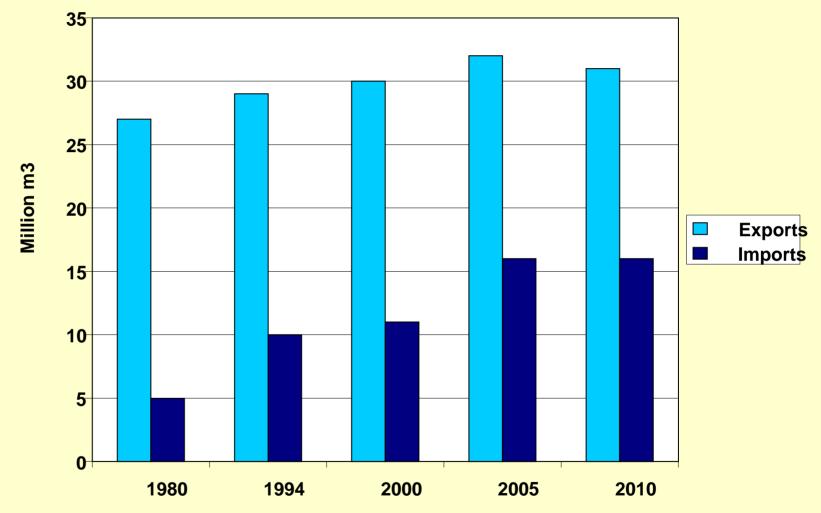








American industrial roundwood trade to 2010









Factors affecting models and markets

- Gross domestic product (GDP)
- Population
- Costs and prices (labor, raw material, etc.)
- Technological change
- Government policies
- Socio-economic trends

Source: FAO *Global Forest Products Consumption, Production, Trade and Prices: Global Forest Products Model Projections to 2010.* By Zhu, S;

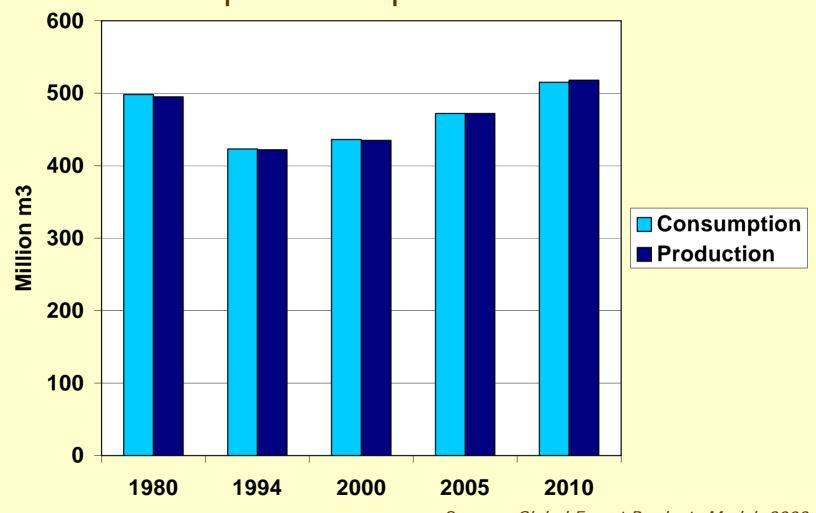
Tomberlin, D; Buongiorno, J., 1998







European industrial roundwood consumption and production to 2010

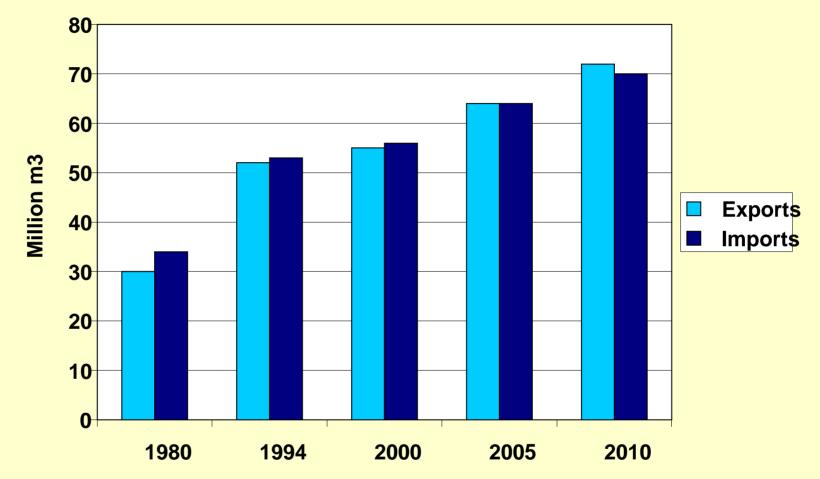








European industrial roundwood trade to 2010

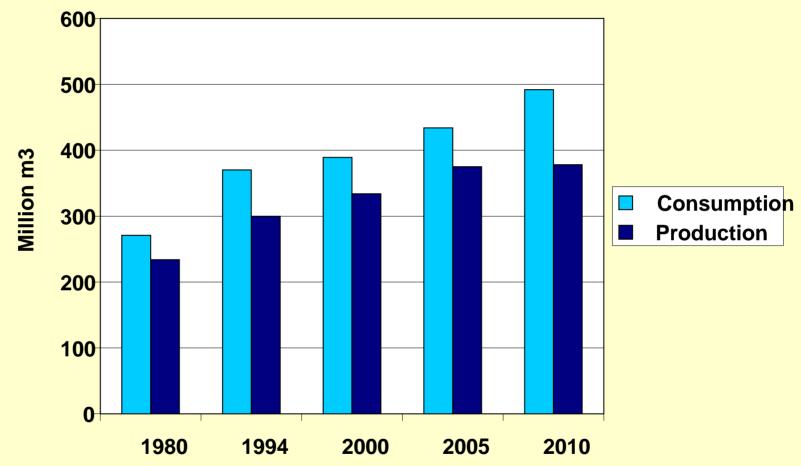








Asian industrial roundwood consumption & production to 2010

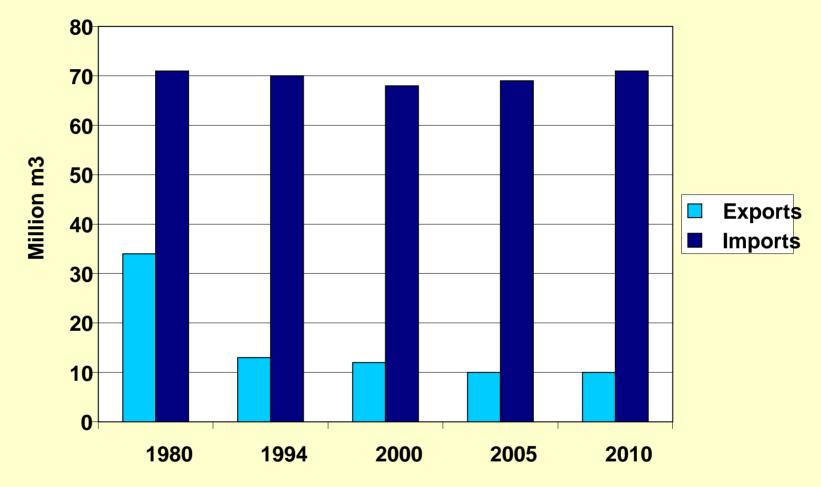








Asian industrial roundwood trade to 2010

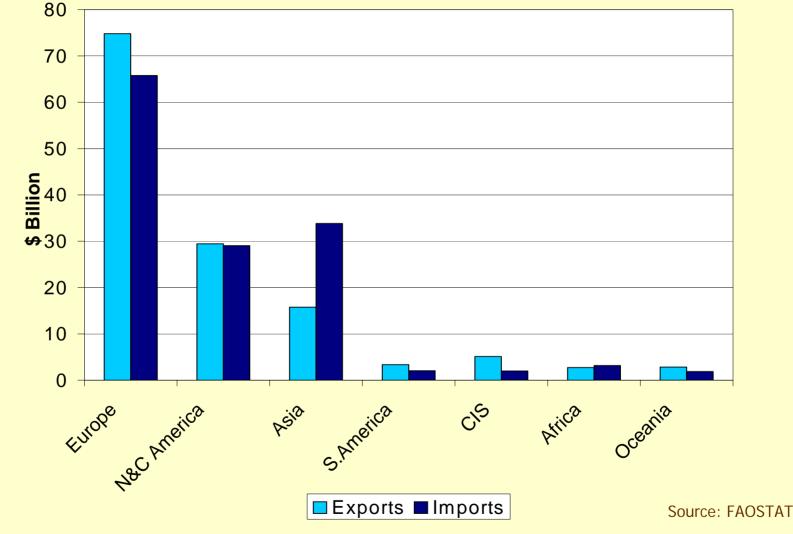








Regional trade, all primary forest products, 2003

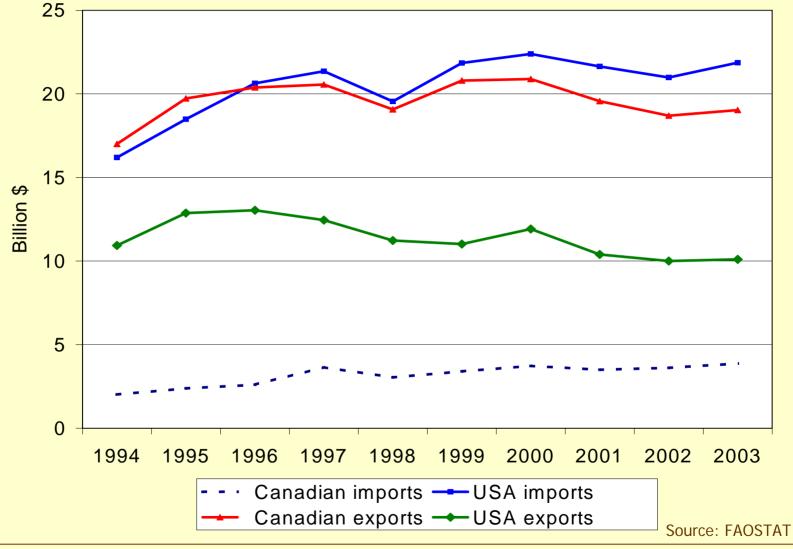




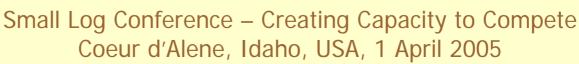




North American trade, all primary forest products, 1994-2003



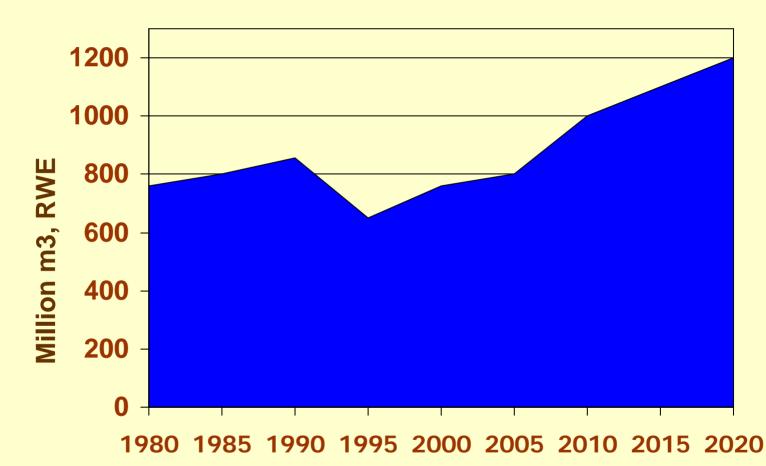








European primary wood products demand, 1980-2020



RWE=RoundWood Equivalent.

Source: European Forest Sector Outlook Study, 2005.







Major influences on current European forest sector

- Expanding markets, but resources outgrowing markets
- Intensifying trade
- Recovery from transition to market economies
- Non-wood forest products increasing demand, value
- Renewable energy policy of EU and member countries
- Globalization of forest products trade
- Innovation of products and processing
- Recycling of paper, use of byproducts

Source: UNECE/FAO European Forest Sector Outlook Study, 2005







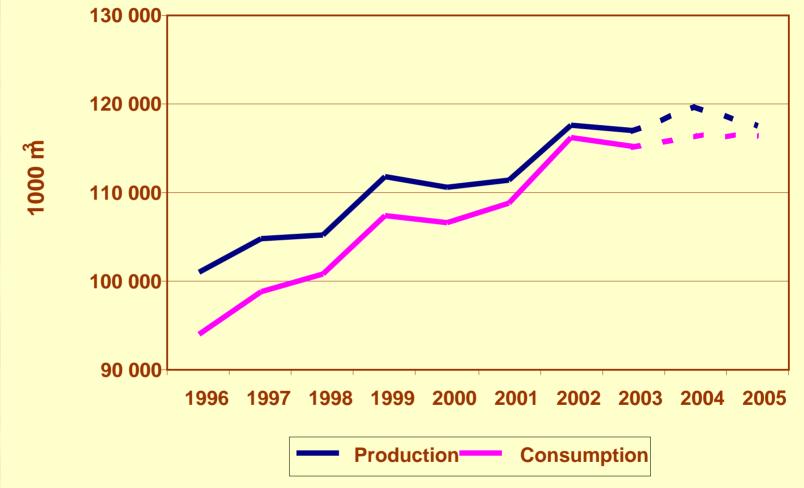
Sectoral analysis: Lumber







N American softwood lumber market 1996-2005









N. American softwood lumber trade,

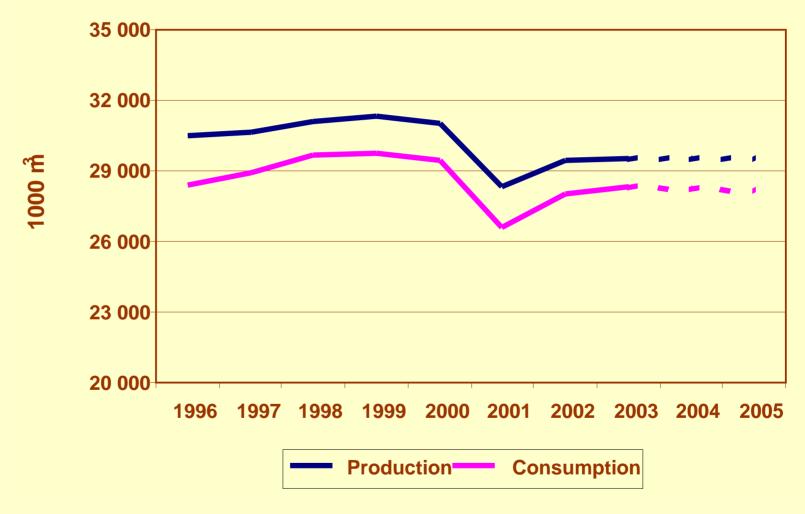








N. American hardwood lumber market,

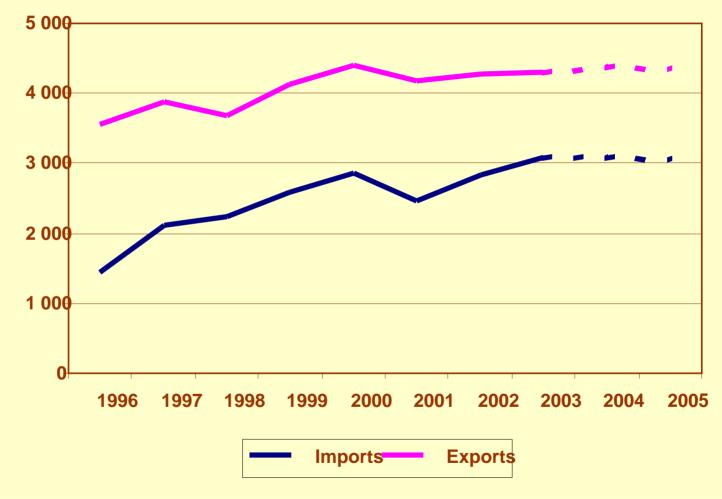








N. American hardwood lumber trade,



Source: UNECE Timber Committee forecasts, 10.2004

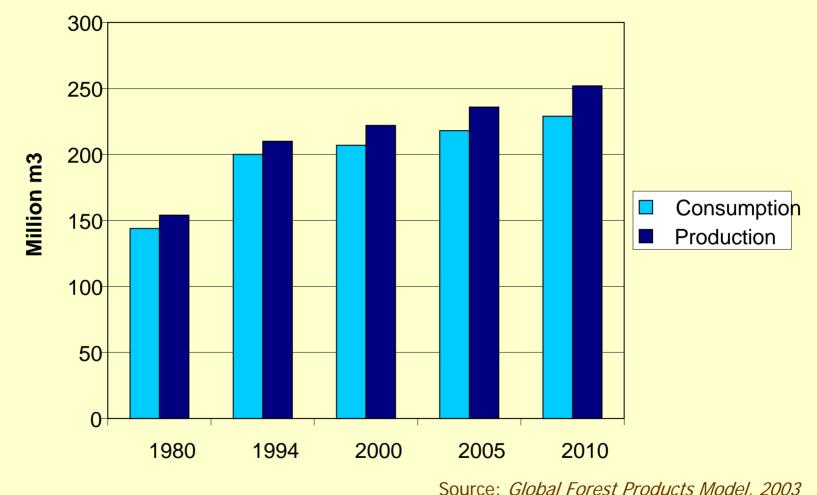


1000 m³





American lumber consumption & production to 2010

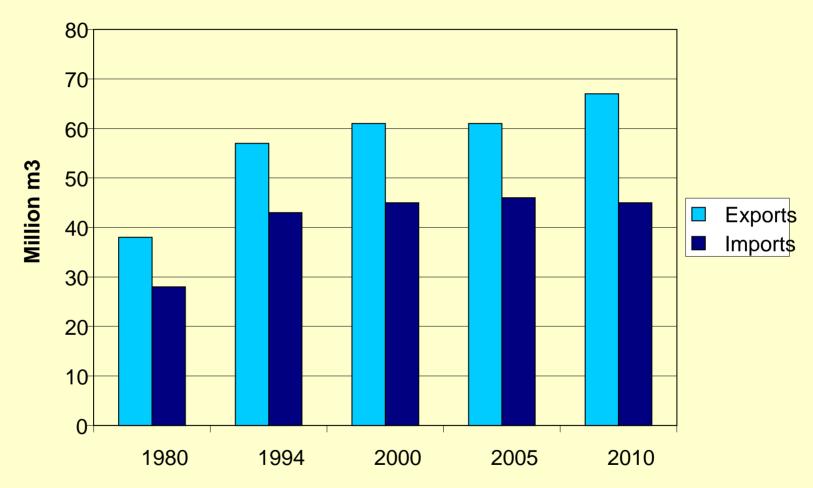


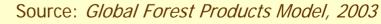






American lumber trade to 2010



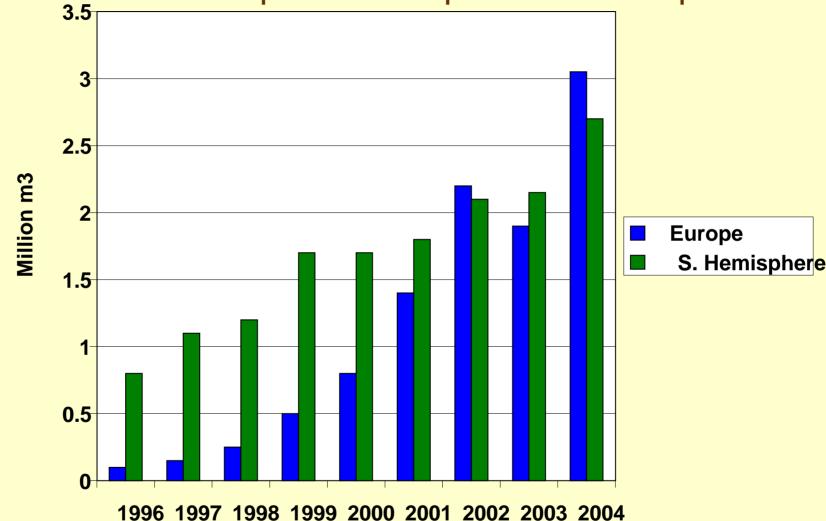








US lumber imports: Europe & S. Hemisphere



Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005







US lumber imports: Europe & S. Hemisphere

- Excludes Canadian imports
 - 98% of US imports in '96, but 87% 2004
 - Canadian-sourced imports up 8% 2004
- Aided by Softwood Lumber Agreement duties
- Imports of dimension softwood, some EWPs
- European-sourced imports
 - Increased 52% in 2004
 - Despite 45% rise in euro value vs. \$
 - "Semi-natural forests" vs. plantation

Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005







US lumber imports: Europe & S. Hemisphere

- Northern hemisphere sources in 2004
 - 1. Germany (up 73%)
 - 2. Austria (up 75%)
 - 3. Sweden (down 2%)
 - 4. Czech Rep., Lithuania, Russia, Finland, Estonia
- Southern hemisphere sources in 2004
 - 1. Brazil (up 37%)
 - 2. Chile (up 35%)
 - 3. New Zealand (down 3%)
 - 4. Argentina, Mexico, other

Sources: USDA-Foreign Ag. Svc. and Wood Markets Monthly, 2005

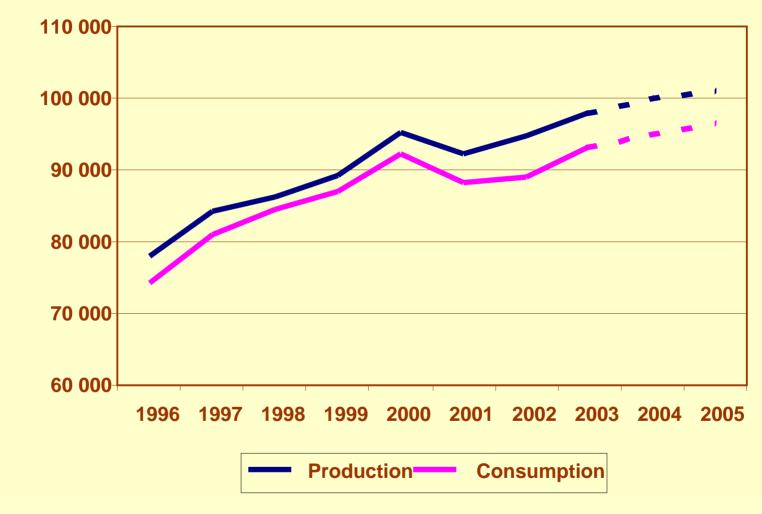






1000 m³

European softwood lumber market,



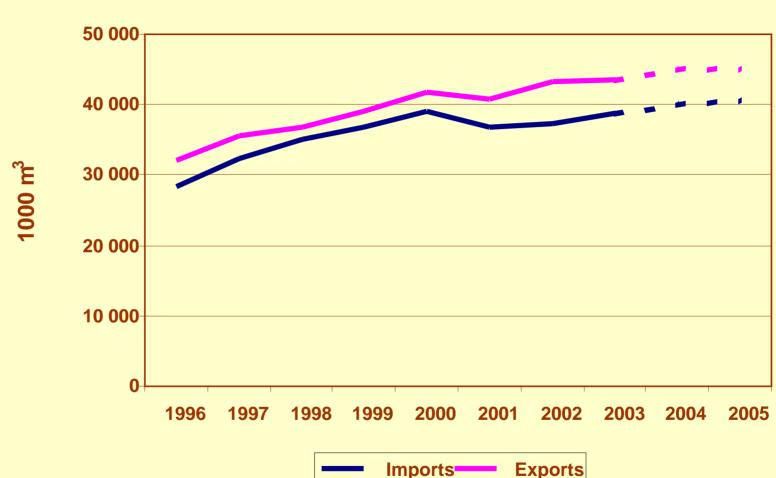








European softwood lumber trade,

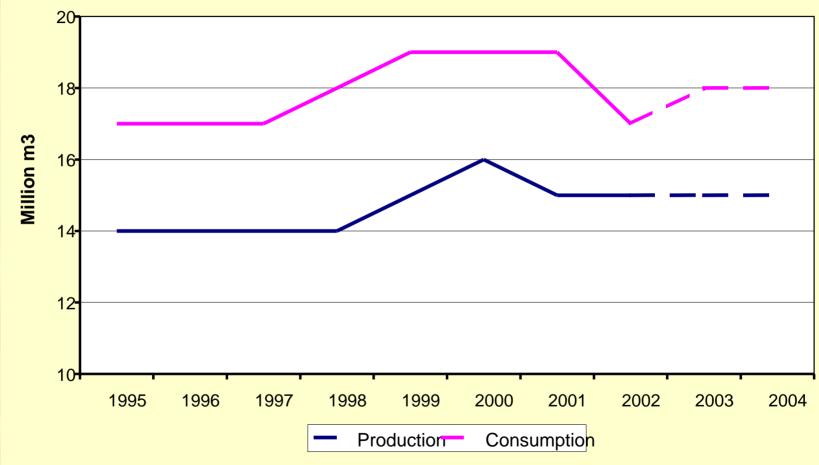








European hardwood lumber market, 1995-2004

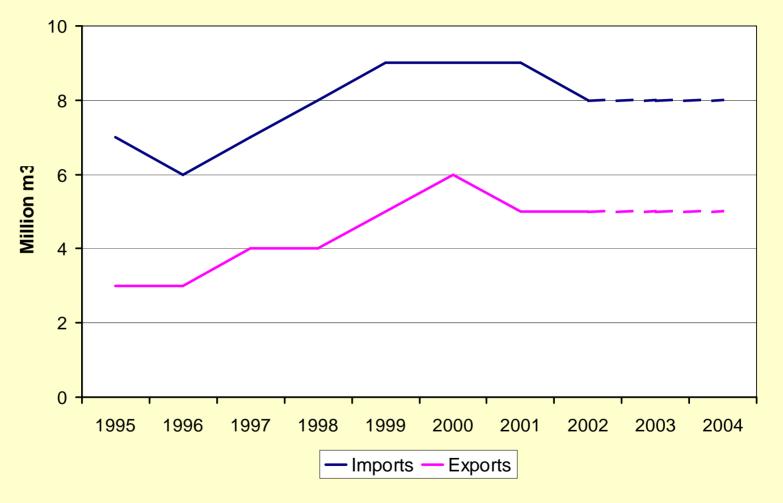








European hardwood lumber trade, 1995-2004

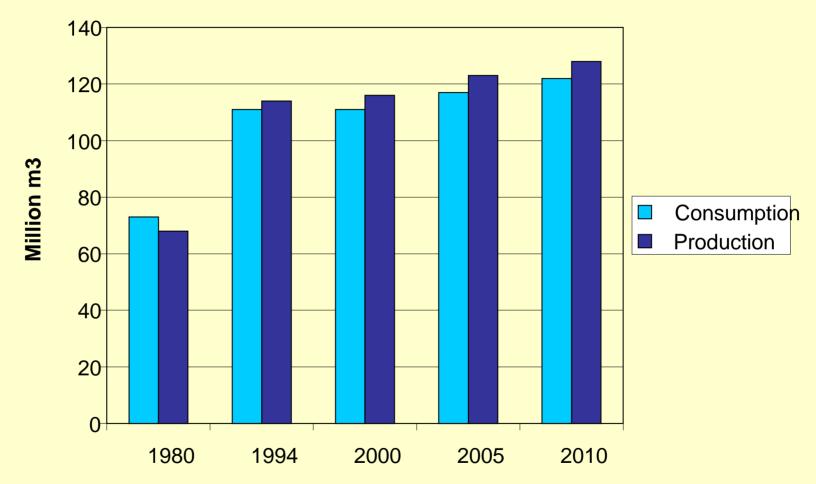


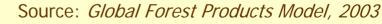






Europe lumber consumption and production to 2010



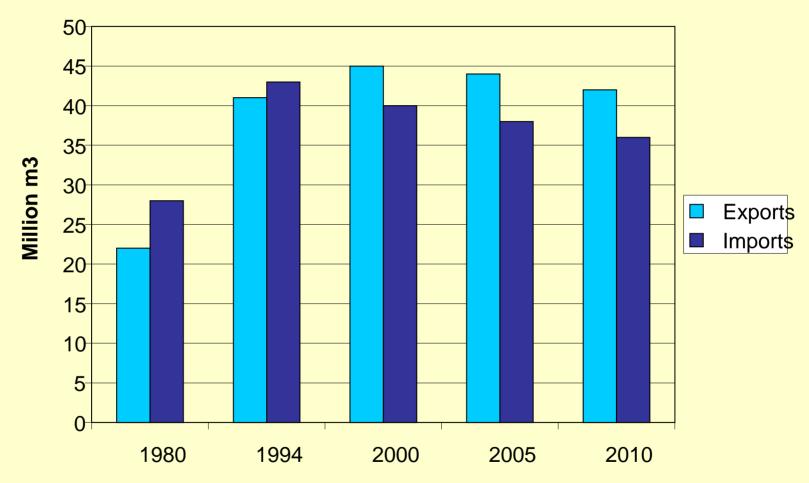








Europe lumber trade to 2010

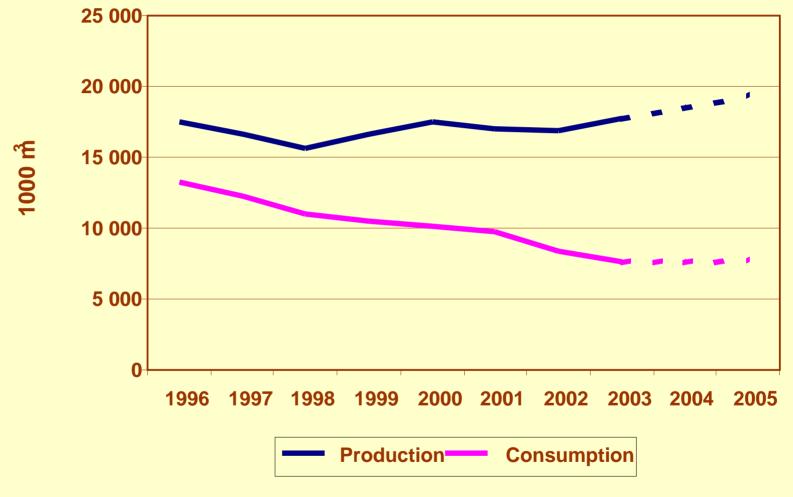








Russian softwood lumber market 1996-2005



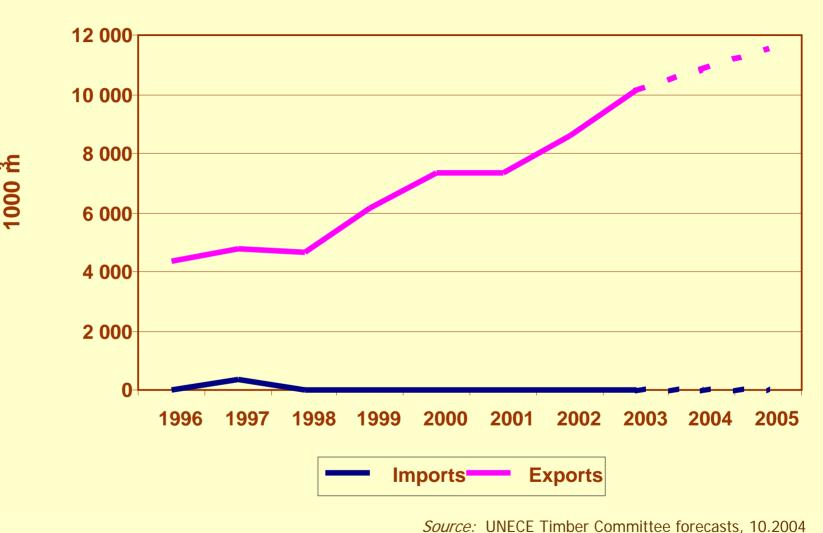








Russian softwood lumber trade, 1996-2005

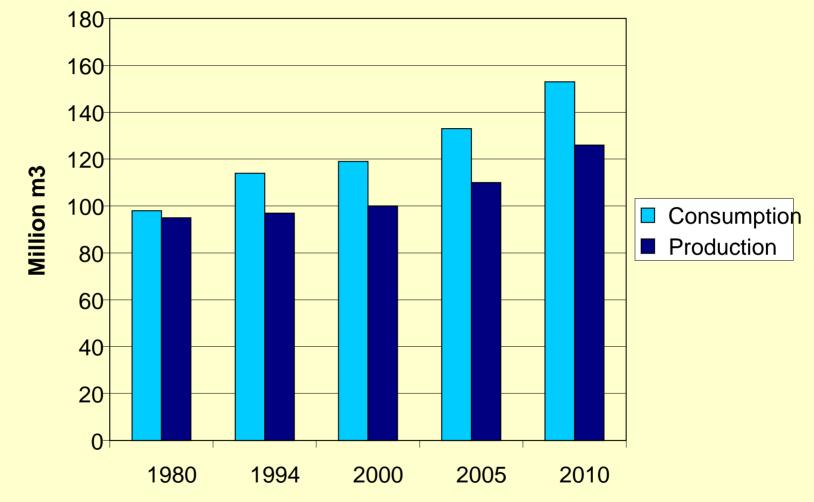


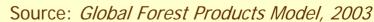






Asia lumber production and consumption to 2010



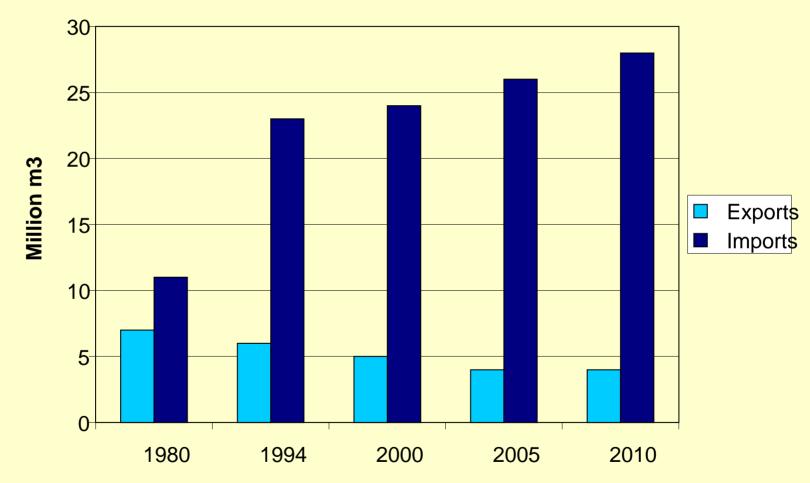








Asia lumber trade to 2010









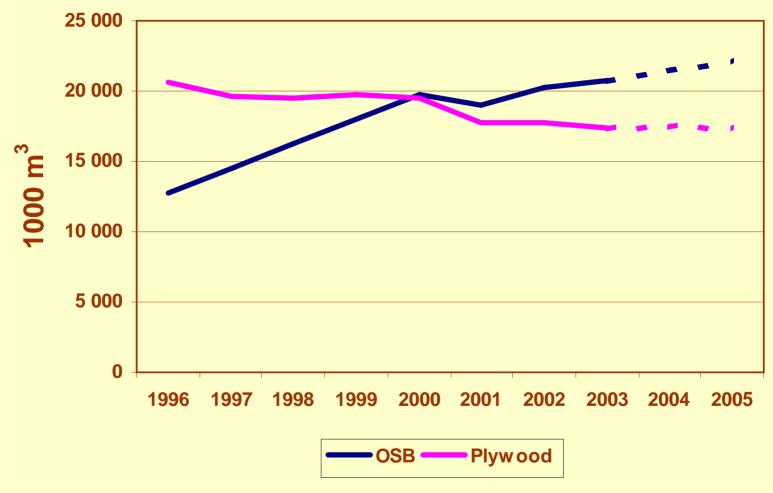
Sectoral analysis: Panels







North America structural panel production, 1996-2005



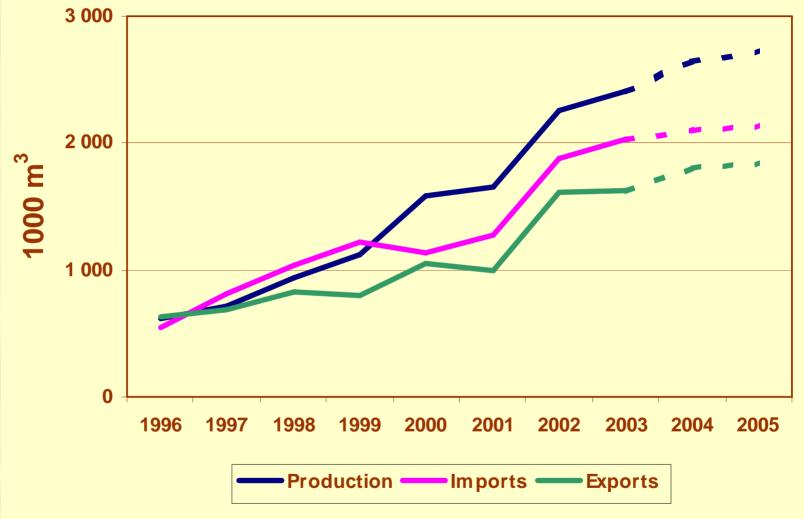
Source: UNECE Timber Committee forecasts, 10.2004







European OSB market, 1996-2005



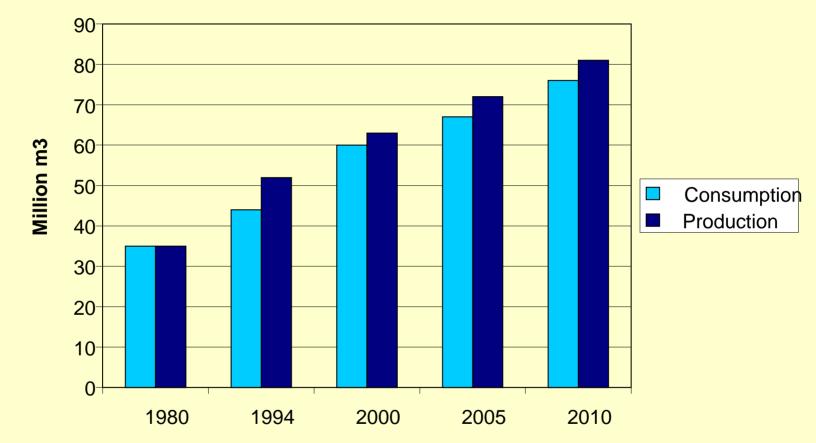
Source: UNECE Timber Committee forecasts, 10.2004







America panel consumption & production to 2010

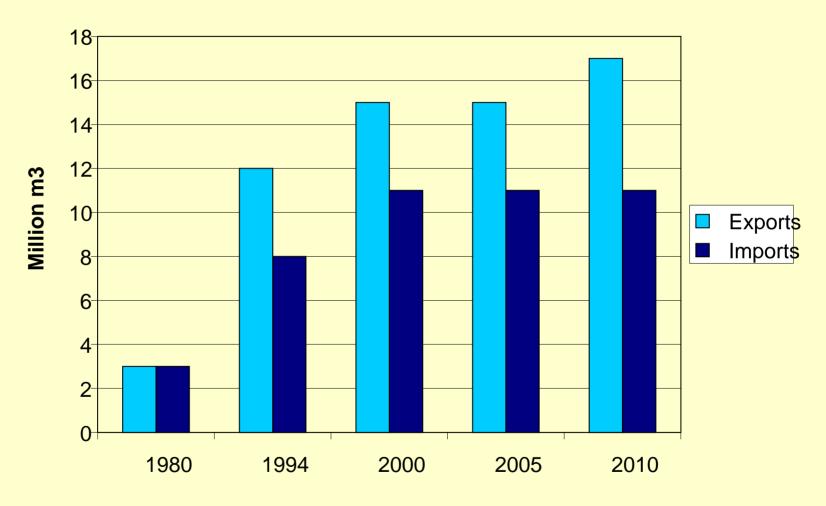








America panel trade to 2010

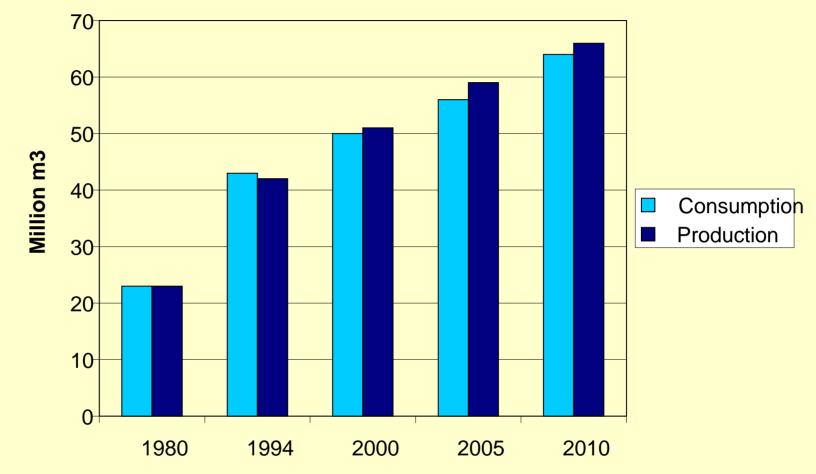








Europe panel consumption & production to 2010









Increasing small log demand

- For increasing panels production
- Lumber production rising slower
- For growing paper demand
- For rising packaging demand
 - Cardboard (paperboard)
 - Pallets
- Wood-based energy

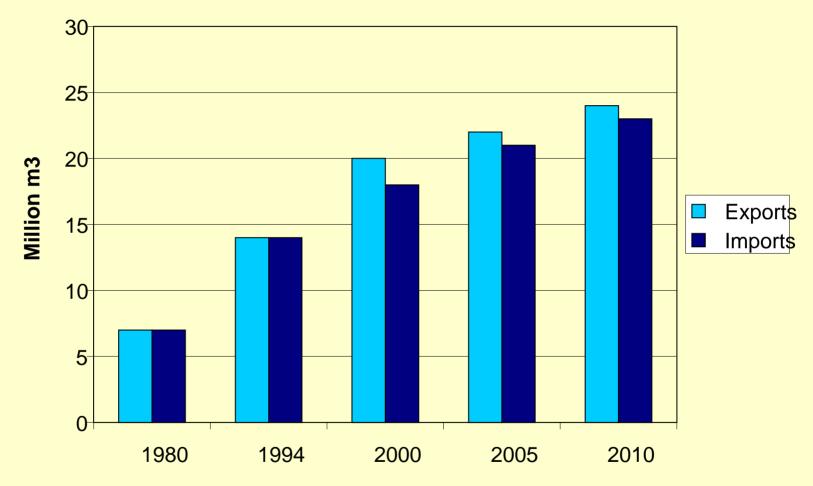
Main source: European Forest Sector Outlook Study, 2005.







Europe panel trade to 2010

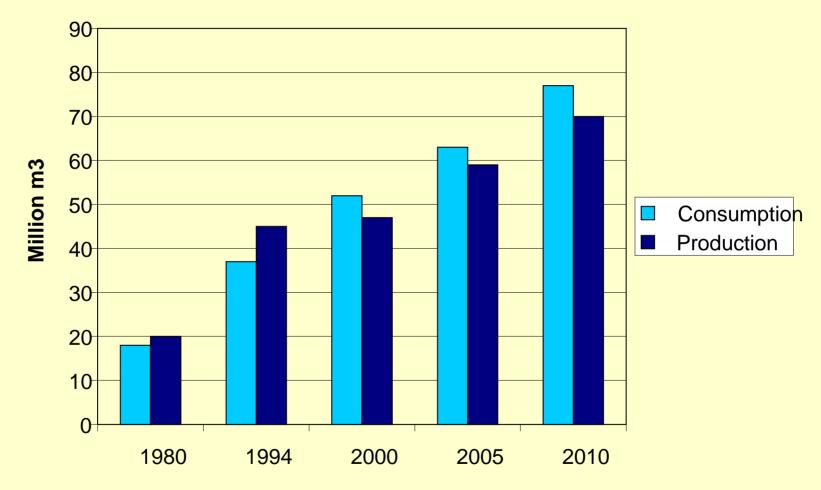








Asia panel consumption & production to 2010

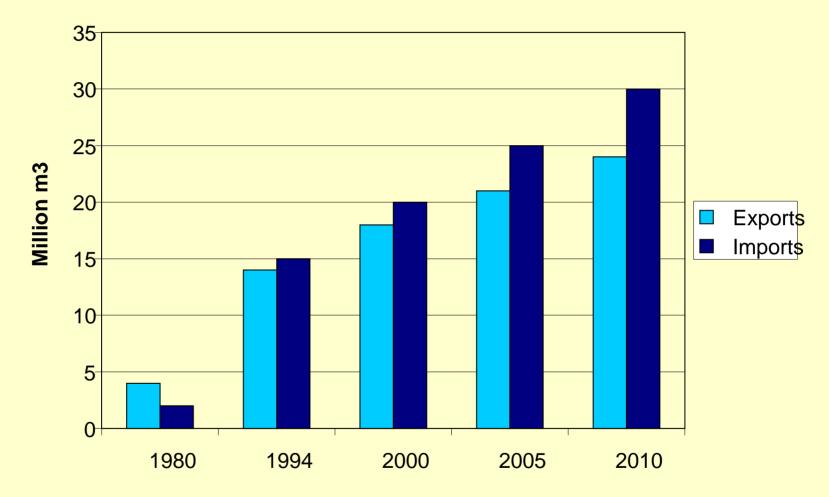








Asia panel trade to 2010









An aside on the Chinese market







China's expanding trade

- Total export value 2003: \$390 billion, +36%
- Total import value 2003: 371 billion, +39%
- Trade surplus: \$20 billion
- China & Japan 2003 trade: \$120 billion, +31%
- China & US 2003 trade: \$114 billion, +29%
- China & Europe 2003 trade: \$112 billion, +43%
- "Sudden growth" of primary product imports: timber, steel, oil, soybeans

Source: "China Forest Products Market Information", December 2003







China's booming timber imports

- Housing construction
 - Only minority wood-based
 - Green and healthy communities
 - Affordable
- Renovation market for houses and municipal
- Infrastructure development
- Interior woodwork and furnishings
- Olympic-related construction (2008 Beijing)

Source: "China Forest Products Market Information", 2003







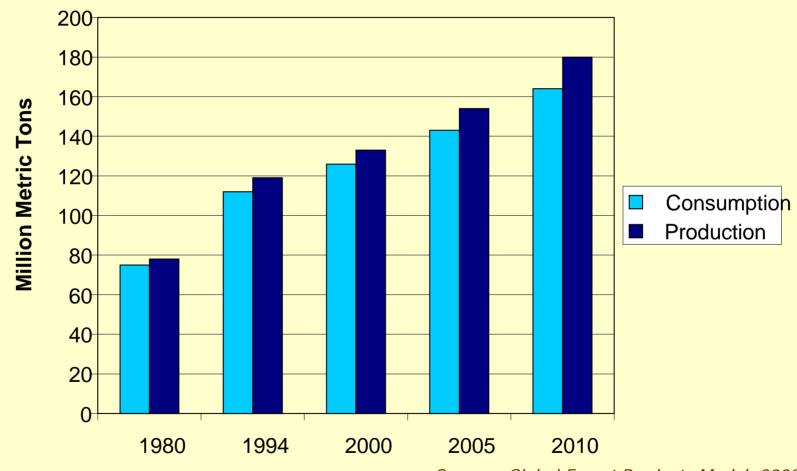
Sectoral analysis: Paper

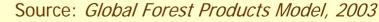






N. American paper & paperboard consumption and production to 2010



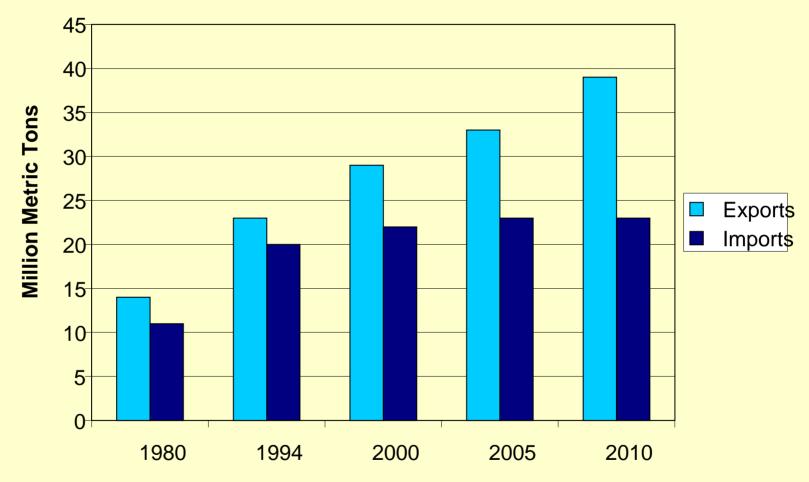








N. America paper & paperboard trade to 2010

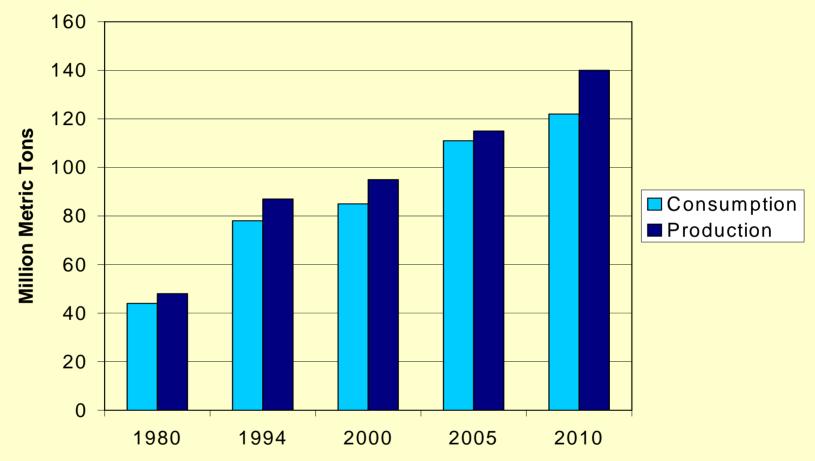








European paper & paperboard consumption and production to 2010

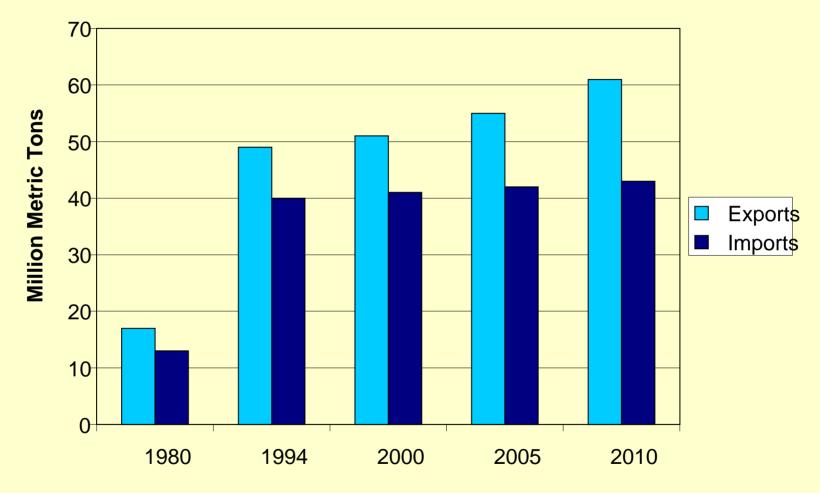








Europe paper & paperboard trade to 2010

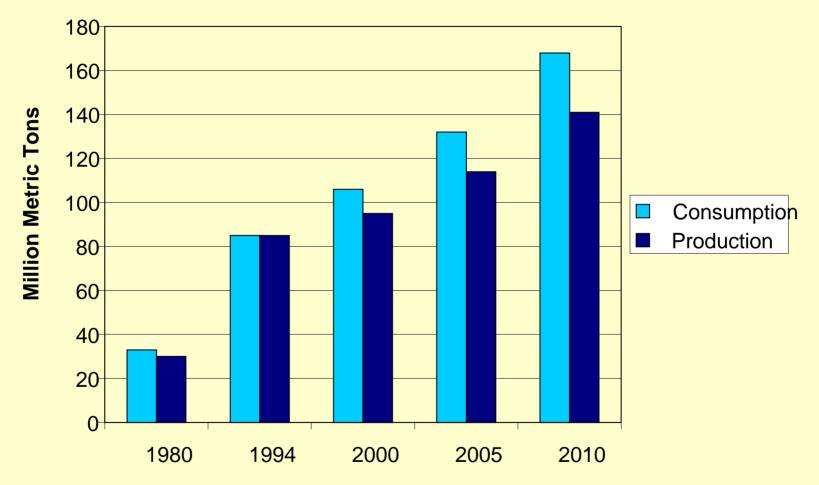








Asia paper & paperboard consumption and production to 2010

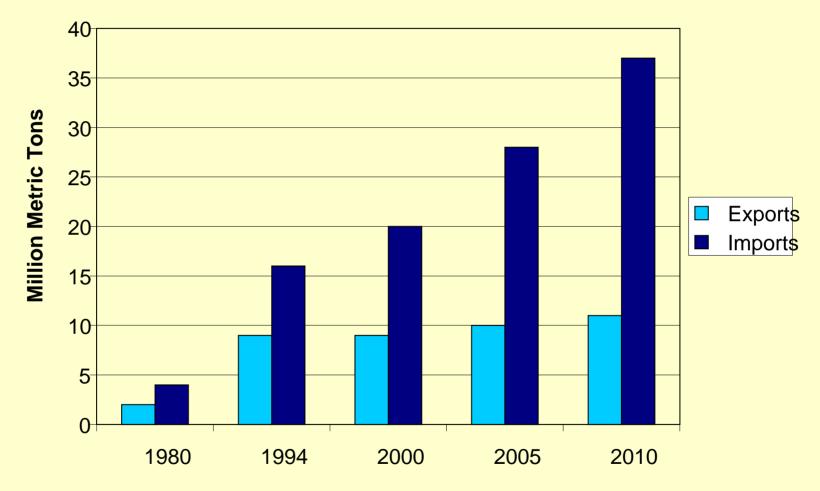


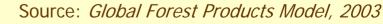






Asia paper & paperboard trade to 2010



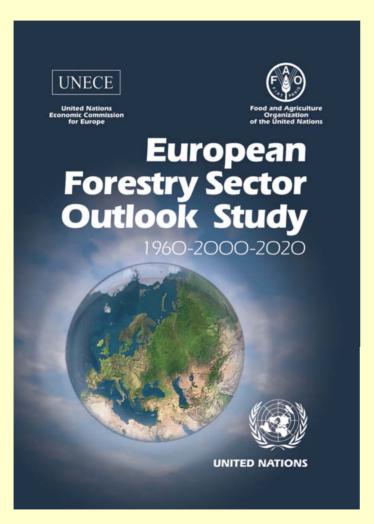








New EFSOS market conclusions



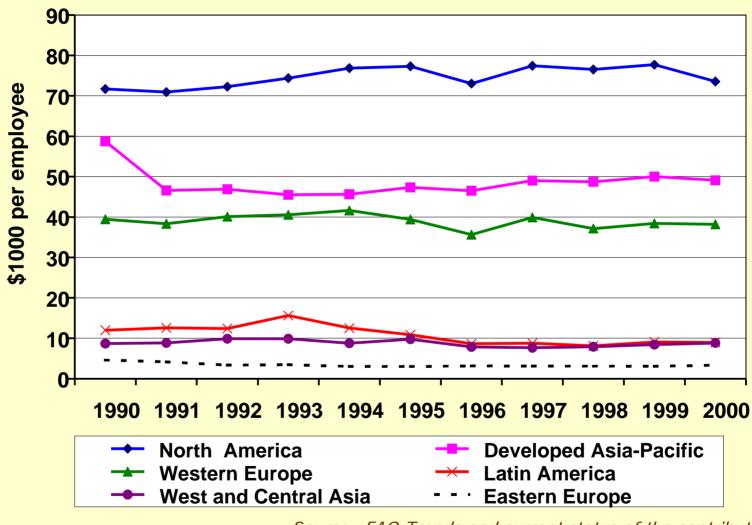
- Collapse in CIS and eastern Europe, 1990s
- Partial recovery
- Increased small log demand
- Increased recovered materials
- Intensifying trade
- Declining log prices
- Renewable energy







Productivity in wood industry by region



Source: FAO Trends and current status of the contribution of the forestry sector to national economies, 2004



Small Log Conference – Creating Capacity to Compete Coeur d'Alene, Idaho, USA, 1 April 2005





Summary: Key market issues (1 of 2)

- Illegal logging and trade of illegally-sourced wood
- Certification of sustainable forest management, markets for certified forest products
- Policies for promotion of sound use of wood
- Research and development policies
- Industry competitiveness and investment policy

Source: Forest Products Annual Market Review, 2003-2004







Summary: Key market issues (2 of 2)

- Global competition → Increased efficiency in manufacturing, new marketing strategies
- Climate change policy, carbon trading
- Wood energy promotion policies
- Trade policy, tariff and non-tariff barriers

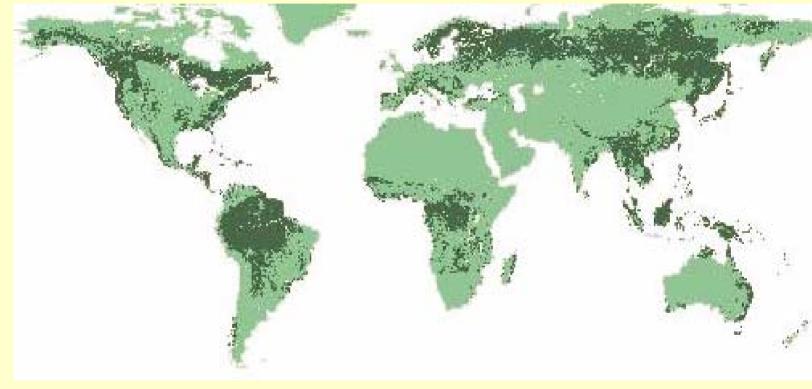
Source: Forest Products Annual Market Review, 2003-2004







III. Forest resources

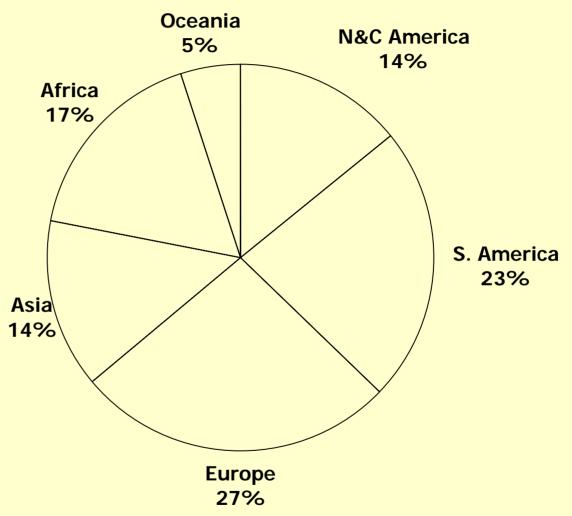








Where are the forests?



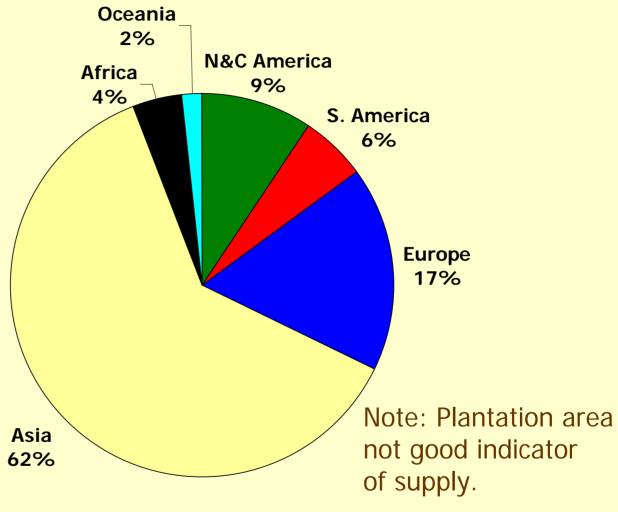
Source: FAO State of the World's Forests 2005







Where are the plantations?



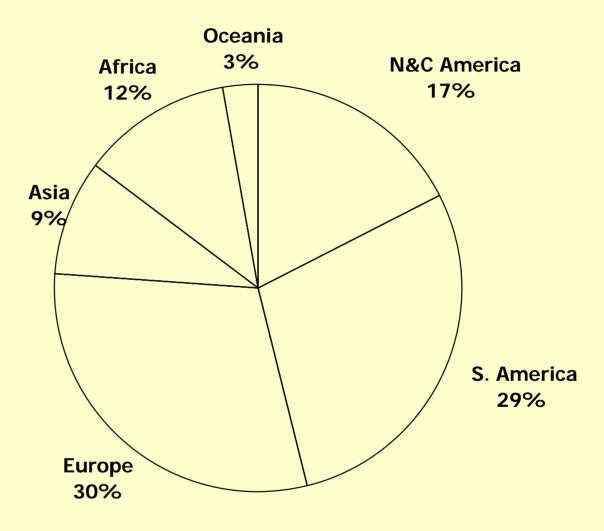
Source: FAO State of the World's Forests 2005







Where's the wood?



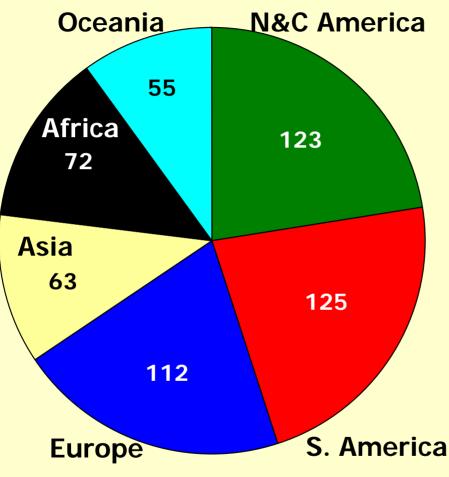
Source: FAO State of the World's Forests 2005







Wood volume (m³) per hectare



- N&C America
 - US 135 m3
 - Canada 120 m3
 - Guatemala 350 m3
- Oceania: NZ 125 m3
- S. America: Chile 160
- Europe
 - Switzerland 340 m3
 - Germany 270 m3
 - France 190 m3
 - Russia 105 m3







Big logs in Switzerland

- 2nd highest wood volume per forest
 - 340 m3 per hectare
 - Only Guatemala higher at 355 m3
- 1/3 forested, mostly on higher ground
- Why? Centuries of big log forest management
- Not only lumber and beams, also protection
- But...1999 windstorms
 - Took tall, old, large diameter
 - 2 years' harvest in 3 days in Switzerland
 - 1 year's in all of Europe in 3 days.







Small logs in Switzerland?

- Climate change → more windstorms, more storm damage and windthrow
- Large logs cost more energy and time for
 - Transportation and handling
 - Conversion
- Reduced consumption of solid beams and wide lumber
- Increased composite panels, edge-glued panels, glulam and other EWPs
- European foresters changing "big log" mentality







Annual change in forest area, 1990-2000, (million hectares)

	Deforestation	Increase in forest area	Net change in forest area
Tropics	-14.2	+1.9	-12.3
Non- tropics	-0.4	+3.3	+2.9
World	-14.6	+5.2	-9.4

Source: FAO Global Forest Resources Assessment 2000







Global deforestation of 14 million hectares/year > ½ of Idaho deforested every year.

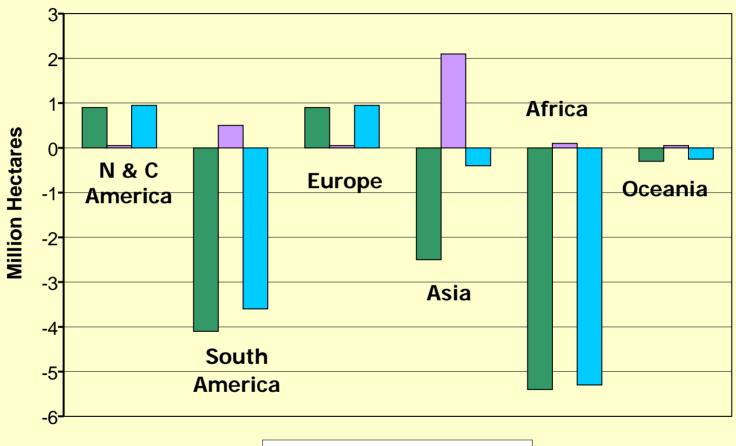








Annual change in forest area, 1990-2000



■ Natura Plantatior Total

Source: FAO Global Forest Resources Assessment 2000







Reasons behind deforestation

- Conversion to other land uses (0.4% of worlds' forests annually in the '90s)
 - Agricultural, including grazing
 - Urbanization
- Unsustainable silvicultural practices
 - Unmanaged harvesting
 - Poor regeneration
 - Fire, insects and diseases
 - Overharvesting fuelwood
- Poverty and overpopulation







Forest resources in N. America

- 80% of net annual increment harvested
- Forest volume increases ~3 million m³ daily
- Forest area 1990 to 2000
 - USA +0.2%
 - Canada, no significant change

Sources: State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000







Forest resources in Europe

- Only 60% of wood grown is harvested
- Forest volume increases ~2 million m³ daily
- Forestland increases by 500,000 hectares per year

Sources: State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000







State of Europe's Forests

- Resources and area increasing
- Forest health and vitality are critical
- Productive functions maintained
- Biodiversity is a focus
- Plantations are only 3%
- Protective forests are 12%
- Socio-economic functions important

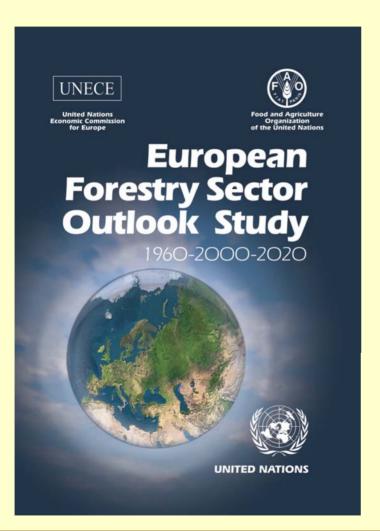
Source: Ministerial Conference on the Protection of Forests in Europe, 2003







New EFSOS forest conclusions



- Harvests < growth
- Growing stock rising
- Increased trade → local forest problem
- Problems in economic viability with falling prices







Forest resources in Russian Federation

- Only 16% of wood grown is harvested
- Forest volume increases ~3 million m³ daily
- Forest area 1990 to 2000: no significant change

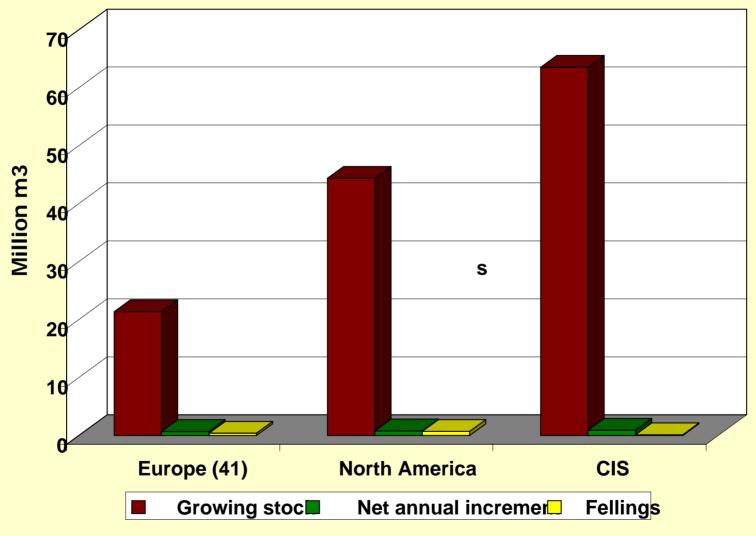
Sources: State of the World's Forests 2001; Global Forest Resources Assessment 2000; Temperate and Boreal Forest Resources Assessment 2000







Forest resources: growing stock



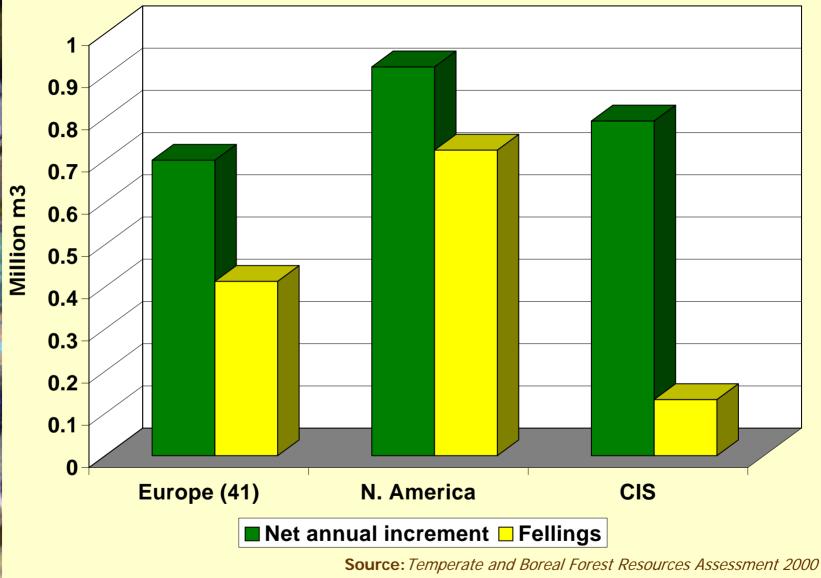
Source: Temperate and Boreal Forest Resources Assessment 2000



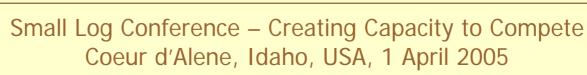




Forest resources: NAI vs. fellings











Forest resources: NAI vs. fellings

	Fellings as % of NAI	
North America	80%	
Europe-41	60%	
Western Europe	64%	
Nordic countries	72%	
Baltic countries	50%	
Central & eastern Europe	56%	
Russia	16%	

Source: Temperate and Boreal Forest Resources Assessment 2000







Regional forest resource utilization

	Wood in forest (billion m3)	Roundwood harvest 2002 (million m3)	Roundwood harvest 2002 (%)
S & C America	117	439	0.4 %
Russia	89	192	0.2 %
N. America	60	678	1.1 %
Africa	46	613	1.3 %
Asia	35	1,005	2.9 %
Europe	28	395	1.4 %
Oceania	11	63	0.6 %

Note: Not all "forest available for wood supply" Roundwood does not include chips. Therefore, %ages are gross.

Sources: State of the World's Forests 2003, FAO Stat.







Forest resources summary

- Removals considerably below growth
- Wide variance in utilization rates of NAI
- Growing stock increasing in Europe
- Southern hemisphere plantations expanding
- Oversupply compared to demand for wood
- Increasing alternative demands on forests







III. Certified forest products markets







Certification of sustainable forest management

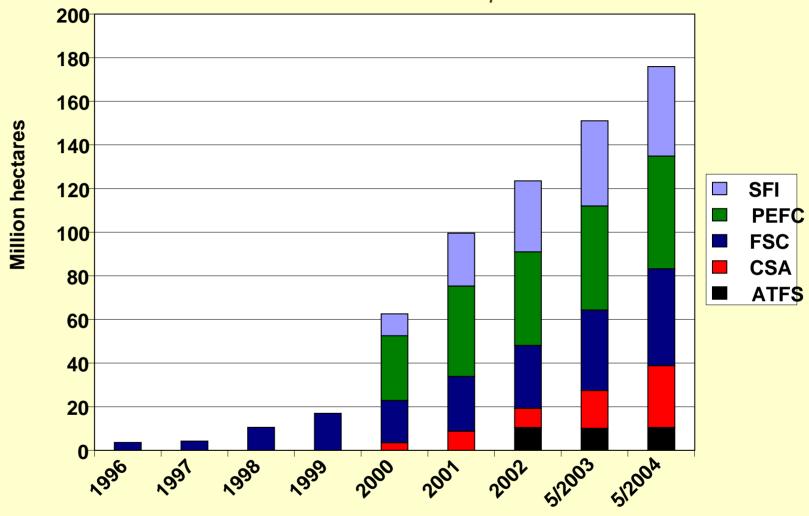
- Over 200 million hectares worldwide (5%)
- Over half of world's certified area in N. America
- Another 40% in Europe







Area of certified forests, 1996-2004

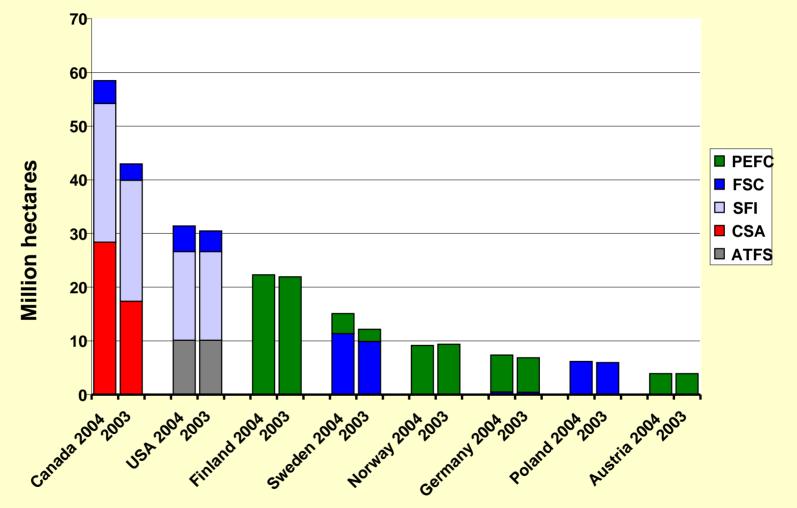








Top 8 countries certified forest area, 2003 and 2004

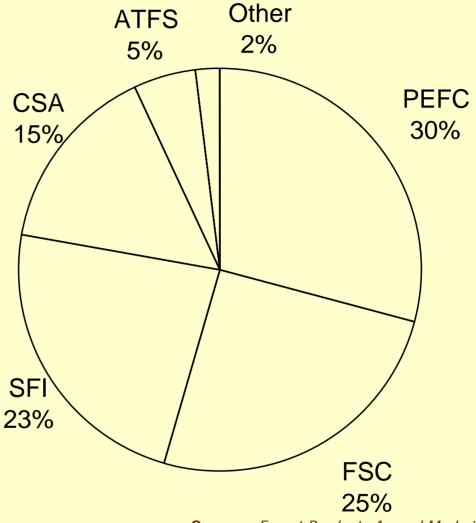








Certification schemes' market share

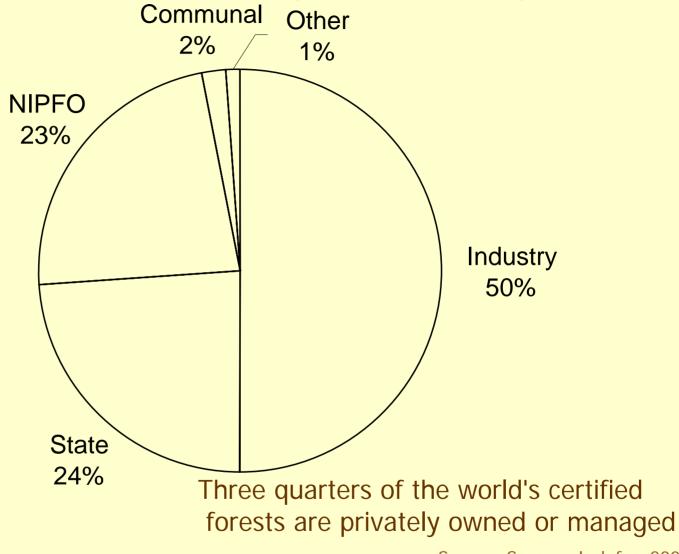








Certified forests by ownership type



Source: Savcore Indufor, 2005







Certified forest products markets

- Growing demand via wholesalers & retailers
- Demand boost by government procurement
- Private consumer demand remains minor
- Chain-of-custody key current development
- Most certified timber sold without label
 - Potential over 300 million m³ (20% world roundwood production)
 - Lost opportunities for market promotion and PR







Certified forest products markets

- Certification system conflicts discredit forest products in the marketplace
- Variety of schemes necessary for different stakeholders' interests
- Impacts of forest certification locally significant
- Difficulties in certifying natural tropical forests, but less so for tropical plantations
- Markets developing slower than forest certification

Source: Savcor Indufor, 2005







Certification

- Introduced to combat deforestation in tropics
- Most certified forests are temperate & boreal
- Therefore, not an instrument to combat deforestation, but to promote sustainable forest management
- Mutual recognition between schemes an issue
- Potential additional roles
 - Verification mechanism in Kyoto Protocol
 - Indication of source, but not proof of legality

Sources: Savcor Indufor, and UNECE/FAO, 2005







IV. Growing the market







Growing too much wood?

Not enough wood products demand?

What are the solutions?







Grow the wood markets!

- Guarantee that today's wood products meet consumers' needs
- Develop new products to meet evolving needs
- Develop new markets for wood products: substitute for non-renewable materials
- Promote wood culture outside N. America and Nordic Countries







How can we grow the wood markets?

- Build coordinated, international promotion programs
- Enlarge existing networks and coalitions
- Create favorable policy environments
- Promote public awareness of key issues and messages







Market effects of wood promotion policies

- Multi-country wood promotion essential to enlarge wood's market share
- Promotion must be cost justified
- Identify and know target markets: cultural and technical dimensions
- Fund raising a problem in fragmented industry
- Key elements: competence, neutrality, credibility, resources

Source: UNECE/FAO Forest Products Annual Market Review, 2001-2002





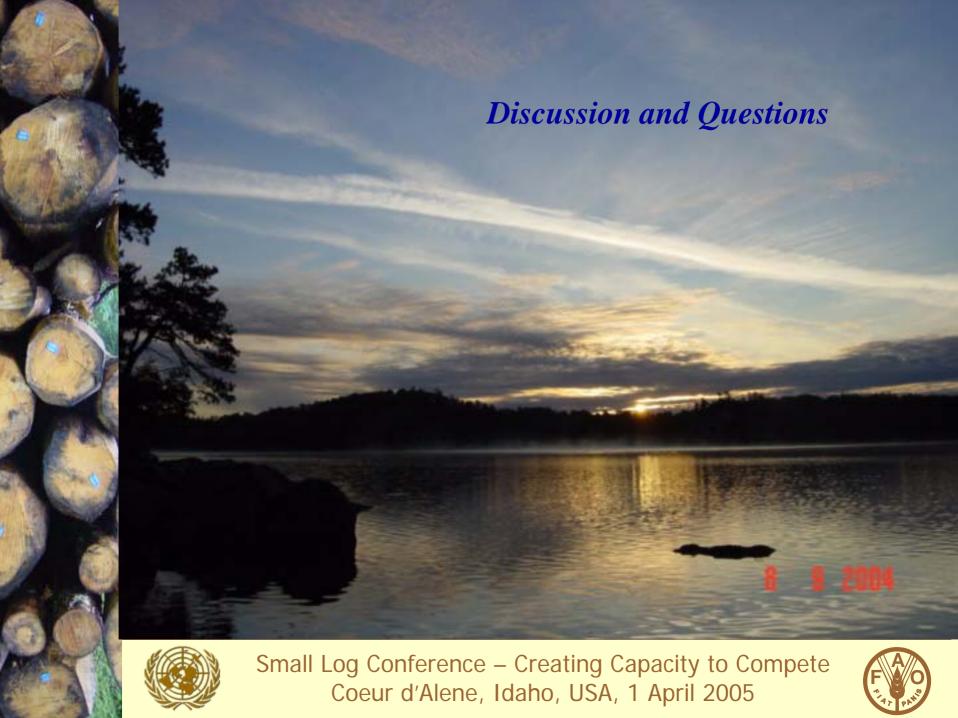


UNECE Timber Committee recommendations

- Develop new products to expand existing markets
- Establish new markets to meet consumers' needs
- Build international cooperation in promoting environmental advantages of sustainable wood production
- Promote wood culture









Questions and Discussion

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